



Conference Abstract

P.62 Assessment of Isoflavone and Ethanolic Extract of *Inonotus Obliquus* on Experimentally Induced Diabetes

Kingsley Duru^{*}, Cara Hildreth, Alberto P. Avolio, Jacqueline K. Phillips, Mark Butlin

Macquarie University

Keywords

Diabetes
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ABSTRACT

Purpose: Studies support beneficial effects of isoflavones, but antidiabetic effects of these agents remains unconfirmed [1,2]. This pilot study investigates isoflavones and *Inonotus obliquus* (chaga) extract effects on diabetes.

Methods: Diabetes was induced (streptozotocin 65 mg/kg, nicotinamide 110 mg/kg) in 9 male Wistar rats (12 weeks old). 9 additional rats were healthy controls. After 4 weeks animals were treated for 4 weeks with vehicle, isoflavone (200 mg/kg/day), or *Inonotus obliquus* (100 mg/kg/day). Blood pressure and metabolic caging were measured weekly. Glucose tolerance, renal function (serum creatinine, blood urea nitrogen (BUN) level, creatinine clearance rate) and heart, kidney and body weight were assessed at the end-point.

Results: The diabetes group had 1 death (ketoacidosis). Untreated diabetic rats showed glucose intolerance (area under curve (AUC) = 64.87 ± 9.71 min \times mmol/L), ameliorated with isoflavone (AUC = 14.78 ± 1.1 min \times mmol/L, $p < 0.001$) and chaga extract (AUC = 30.4 ± 13.5 min \times mmol/L, $p < 0.001$). Body weight was lower but not significantly different in untreated (491.3 ± 35.3 g) versus isoflavone (521.0 ± 7.0 g, $p > 0.05$) and chaga treatment (552.0 ± 91.9 g, $p > 0.05$). Kidney mass index was higher in untreated diabetic rats (0.51 ± 0.06) compared to isoflavone (0.36 ± 0.02 , $p < 0.05$) but not significantly different in chaga (0.39 ± 0.06 , $p > 0.05$) treatment. Food and water intake and 24 hr urine output was not significantly different. No difference in serum creatinine, BUN, or creatinine clearance rate were found.

Conclusions: Initial results indicate renal benefits of isoflavone and chaga extract in an animal model of diabetes but without other cardiovascular impact. The study was underpowered to detect all differences and further work, including translating results to humans, is required.

REFERENCES

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